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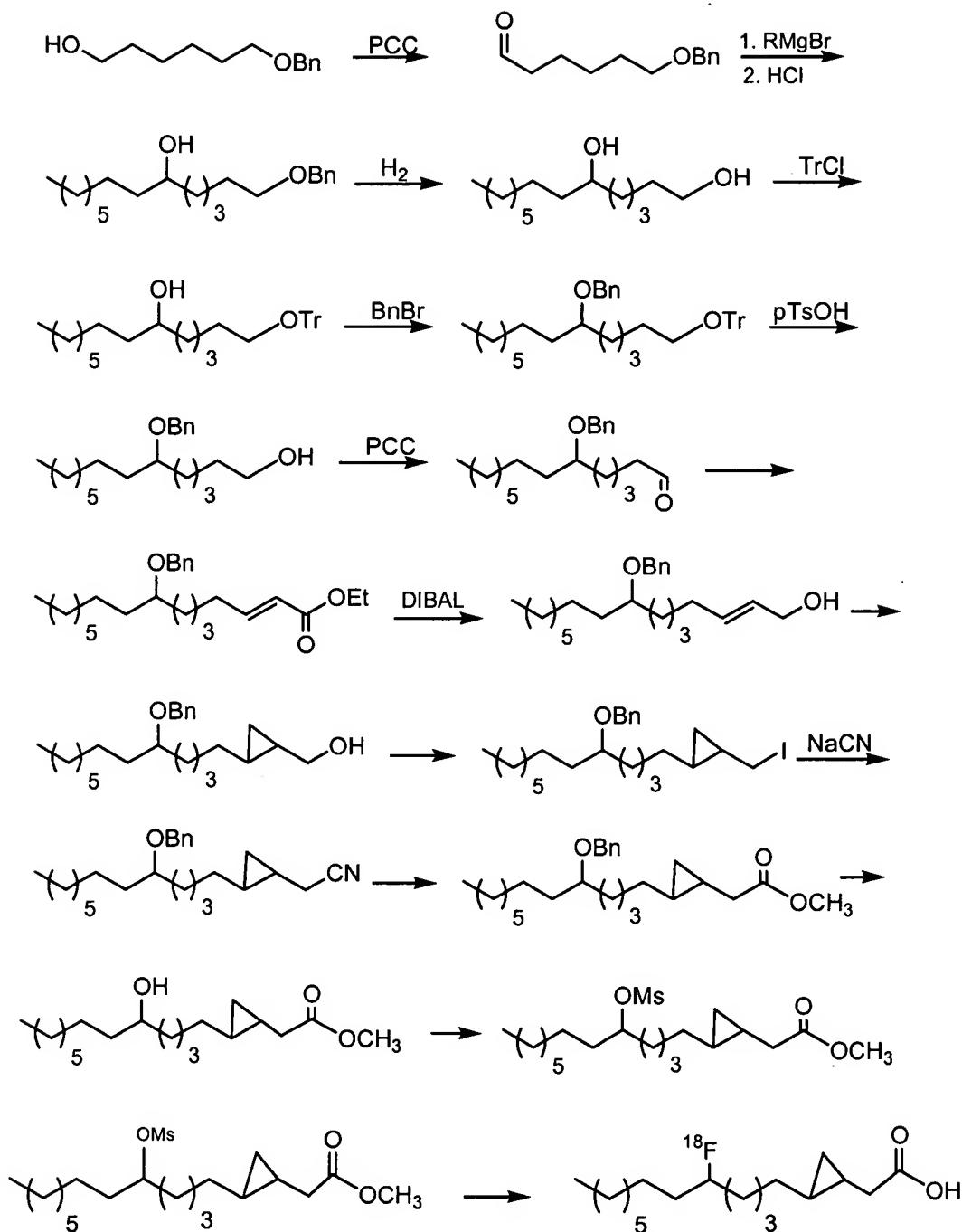
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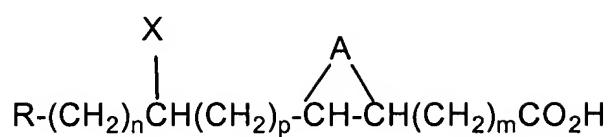
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Synthesis of  $[^{18}\text{F}]\text{-9-Fluoro-3,4-Cyclopropylheptadecanoic Acid}$

FIG.1

Aliphatic-halide



$A = (CH_2)_y, O, S$

$y = 1, 2, 3, 4$

cis and trans; R,R and S,S

$m = 0, 1, 2, 3, 4, \text{etc.}$

$n = 14 - 8$

$p = 0 - 6$

$R = CH_3$

$X = ^{18}F \text{ or } ^{123}I$

FIG.2

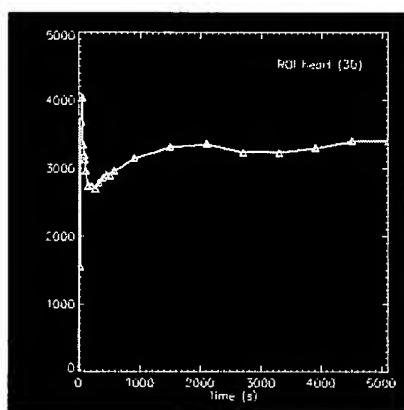


FIG. 3

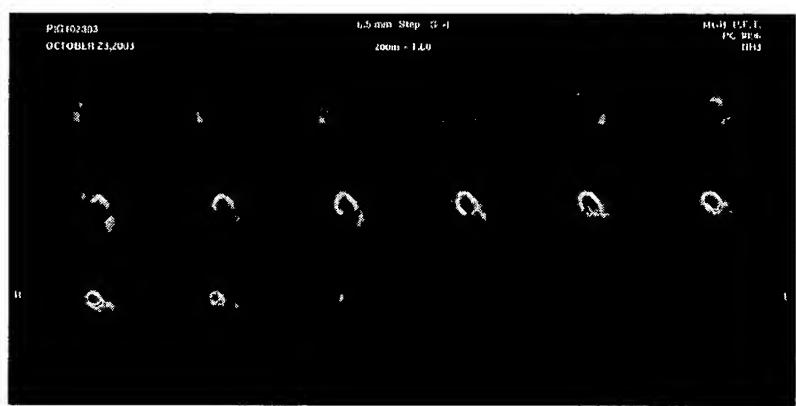


FIG. 4

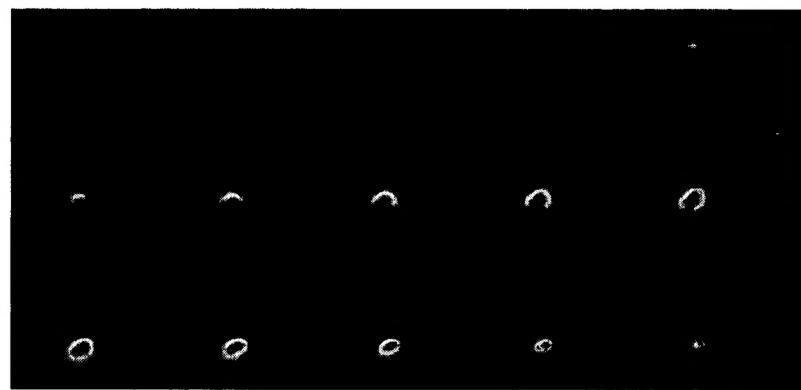
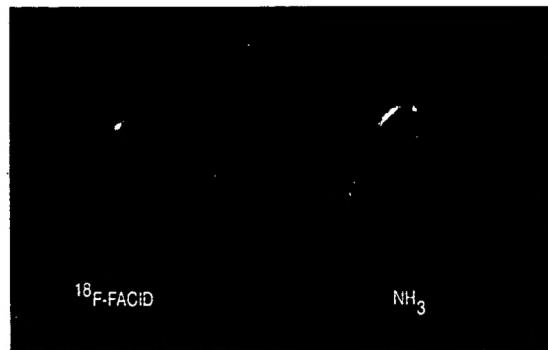


FIG. 5



**FIG. 6**

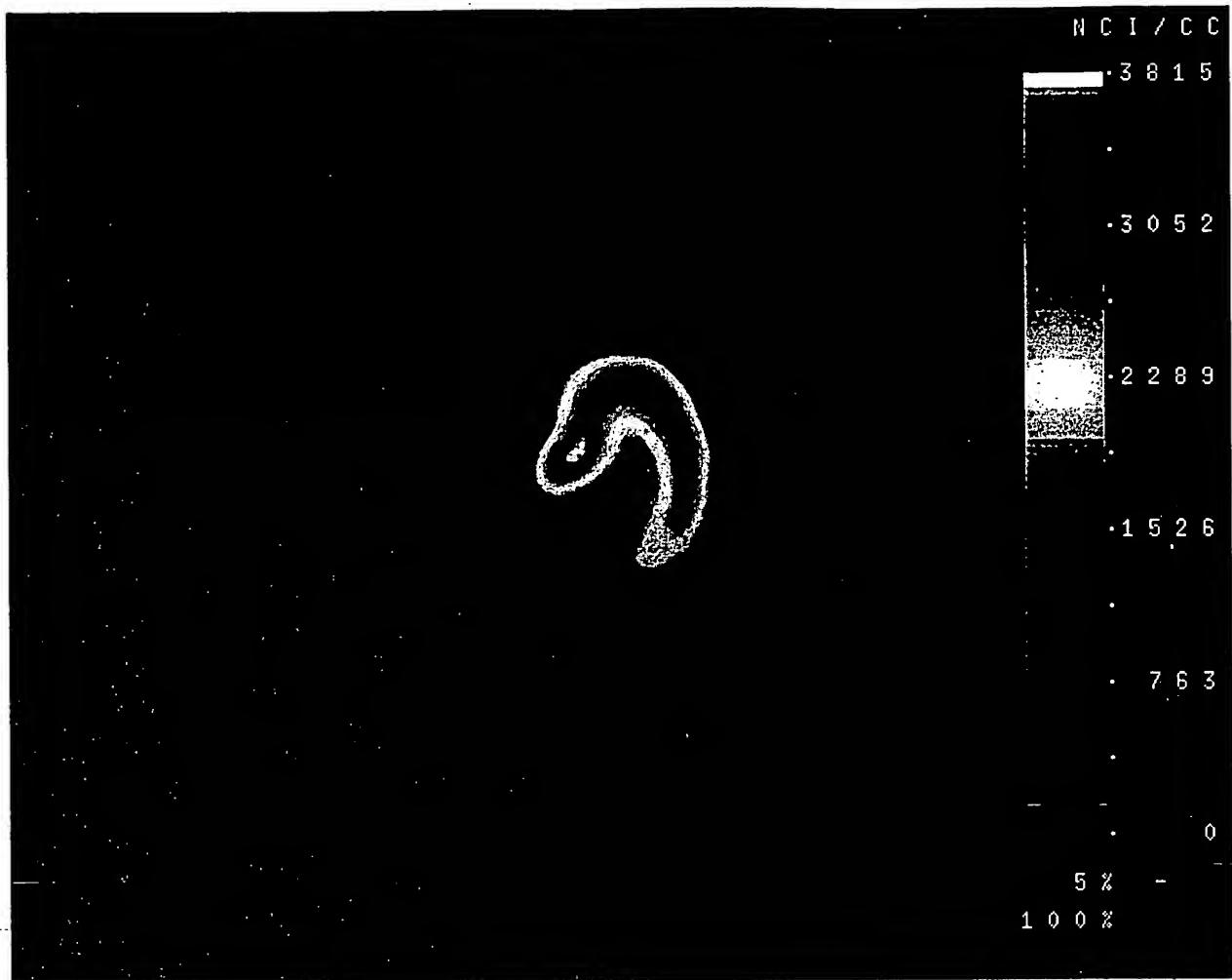
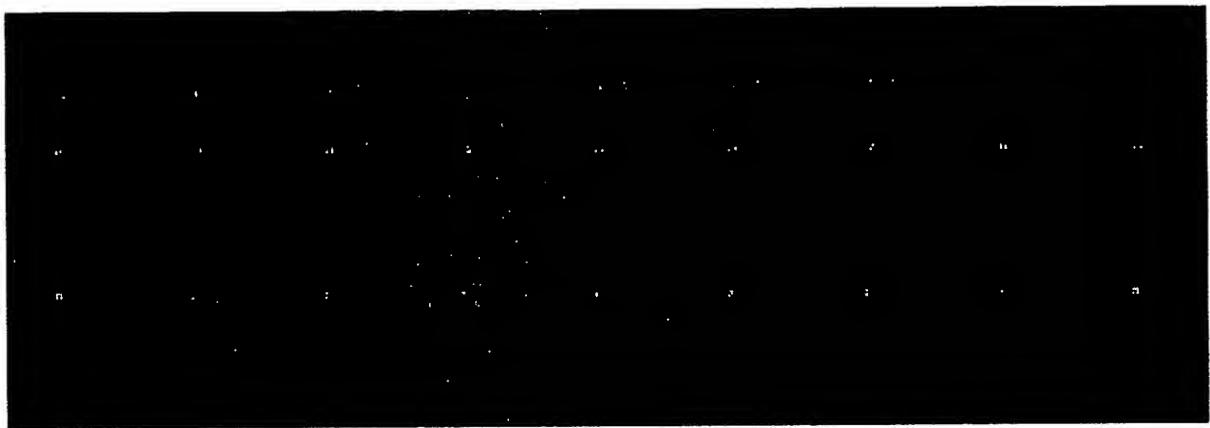
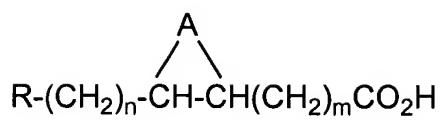


FIG.7



**FIG. 8**



examples:

$A = (CH_2)_x, O, S$

$x = 1, 2, 3, 4$

cis and trans; R,R and S,S

$m = 0, 1, 2, 3, 4, \text{etc.}$

$n = 14 - 8$

$R = {}^{18}F\text{-phenyl or } {}^{123}I\text{-phenyl}$

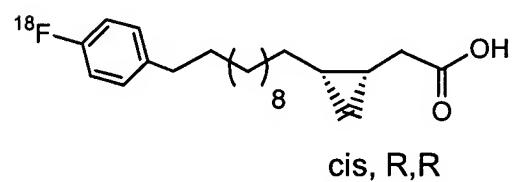
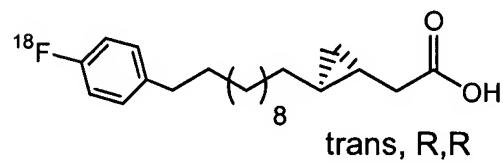
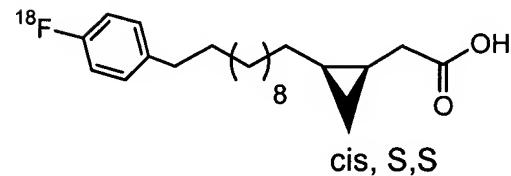
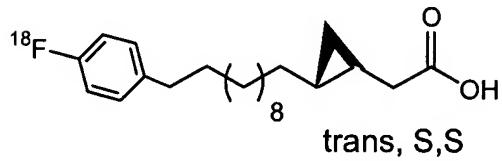
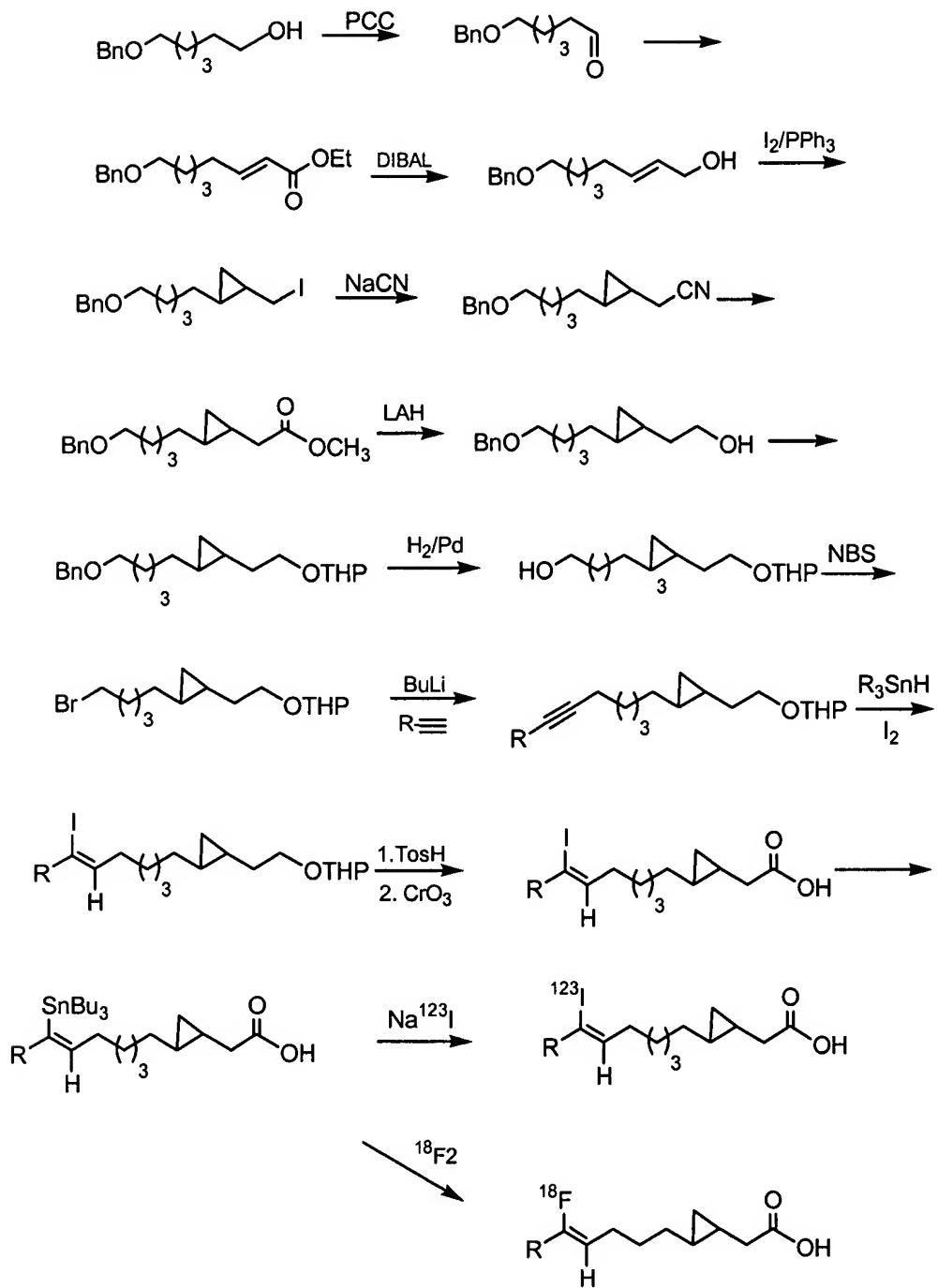


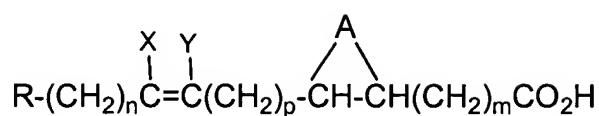
FIG.9



Synthesis of Endo- [ $^{18}F$ ]Fluoro- or [ $^{123}I$ ]iodo-3,4-Cyclopropylheptadecanoic Acid

FIG.10

Endo-halovinyl



$X = {}^{18}F$  or  ${}^{123}I$ ,  $Y = H$

$X = H$ ,  $Y = {}^{18}F$  or  ${}^{123}I$

$A = (CH_2)_z, O, S$

$z = 1, 2, 3, 4$

cis and trans; R,R and S,S

$m = 0, 1, 2, 3, 4$ , etc

$n = 14 - 8$

$p = 0 - 6$

$R = CH_3, \text{aryl, heterocyclic}$

FIG.11

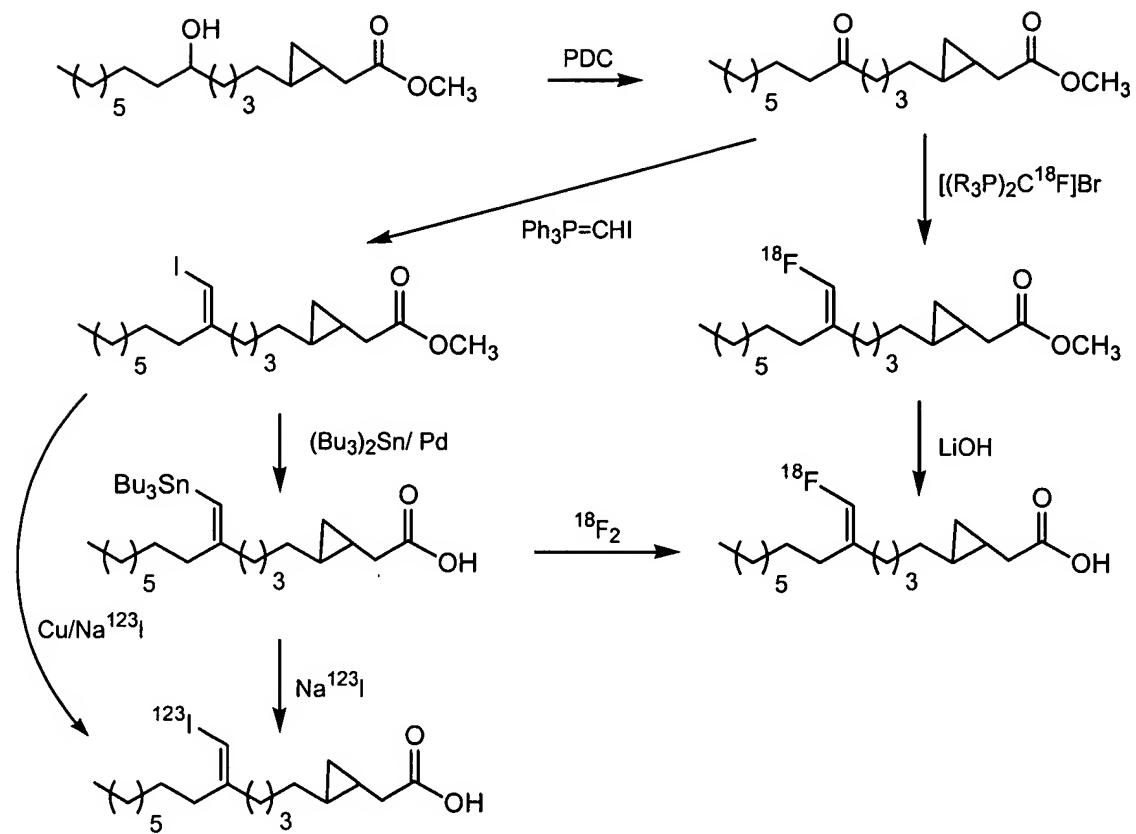
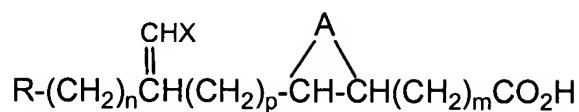


FIG.12

Exo-halovinyl



$A = (CH_2)_y, O, S$

$y = 1, 2, 3, 4$

cis and trans; R,R and S,S

$m = 0, 1, 2, 3, 4, \text{etc.}$

$n = 14 - 8$

$p = 0 - 6$

$R = CH_3, \text{aryl, heterocyclic}$

$X = ^{18}F \text{ or } ^{123}I$

FIG.13

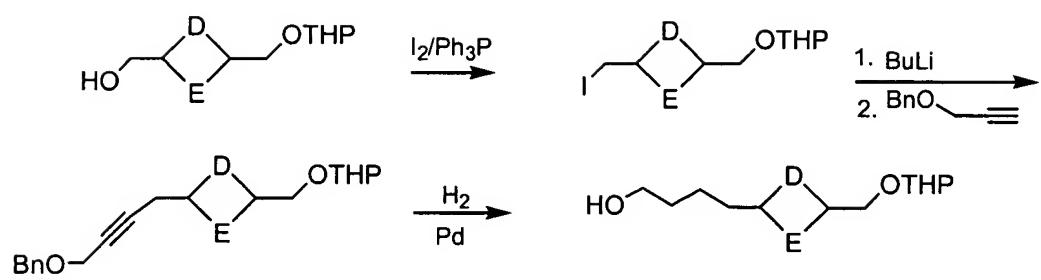
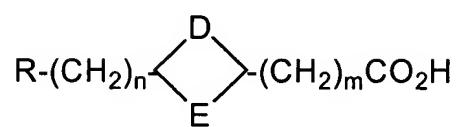


FIG.14

Ring is 4 or 5 membered with all structural variations from FIG.2, 9, 11, and 13



D =  $\text{CH}_2$  or  $\text{CH}_2\text{CH}_2$

$$E = \text{CH}_2 \text{ or } \text{CH}_2\text{CH}_2$$

$m = 0, 1, 2, 3, 4, \text{etc.}$

$$n = 14 - 8$$

R = CH<sub>3</sub>, aryl, heterocyclic

FIG.15